

Attorney Docket No. P12916-US1
Customer Number 27045

REMARKS/ARGUMENTS

1.) Claim Amendments

Claim 21 has been canceled without prejudice. Claims 1-19 and 35-38 were previously canceled. Therefore, claims 20 and 22-34 are currently pending in the application. Favorable reconsideration of the application is respectfully requested in view of the foregoing amendments and the following remarks.

2.) Claim Rejections – 35 U.S.C. § 103(a)

The Examiner rejected claims 20-23, 25, 26 and 28-34 under 35 U.S.C. § 103(a) as being unpatentable over Kainulainen (US 5,796,793) in view of Dolev, et al. (US 5,784,421). The Applicant has amended the claims to better distinguish the claimed invention from Kainulainen and Dolev.

Amended claim 20 recites:

20. A method of synchronizing nodes of a telecommunication network in which a master node is coupled to a Primary Reference Clock (PRC) and a plurality of slave nodes are arranged to synchronize their internal clocks to the PRC using data received on incoming data links, the method comprising:

propagating Synchronization Status Messages through the network from the master node, said propagating step including:

in each given slave node through which a Message passes, modifying the Message by incorporating into the Message, an identity of the given slave node, thereby generating in each Message, a path and path length which has been followed by the Message; and

in slave nodes that are not neighboring nodes of the master node, delaying a predefined time period after receiving a Message before transmitting the modified message to a next slave node in the network;

in each slave node that receives a Message, registering the path or path length of the received message as an attribute for the incoming data link on which the Message was received; and

if multiple Messages are received on different incoming data links in a given slave node, selecting by the given slave node, an incoming data link having an attribute indicating the shortest path length from the master node as the link on which to synchronize.

Claim 20 has been amended to clarify that slave nodes that are not neighboring nodes of the master node delay a predefined time period after receiving a Message

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before transmitting the modified message to a next slave node in the network. Claim 20 has also been amended to add the step previously recited in claim 21, wherein if multiple Messages are received on different incoming data links in a given slave node, the given slave node select an incoming data link having an attribute indicating the shortest path length from the master node as the link on which to synchronize.

The Examiner contends that Kainulainen discloses a time delay because additional processing time would be required to select the incoming signal arriving over the shortest path. (Col. 4, lines 37-43). However, this delay, if any, does not suggest intentionally adding an additional delay before transmitting the modified message to a next slave node in the network. In the Applicant's claimed invention, the reason slave nodes that are not neighboring nodes of the master node delay the transmission of the message is to increase the probability that a synchronization message will be received first at a given node over a shorter path, rather than over a longer path. (See specification page 3, line 31 through page 4, line 2). Thus, the invention recognizes that delays in certain links in the network could create a situation in which a message arrives at a given node over a longer path first because the shorter path was delayed. The claimed invention solves this problem, which does not seem to be even contemplated by Kainulainen.

The Examiner further contends that Dolev shows the introduction of a random delay period before subsequent processing is performed. (Col. 20, lines 7-40). However, this citation from Dolev is not relevant to the claimed invention. As stated by Dolev in Col. 20, lines 7-9, "Finally, FIG. 6 is a flowchart showing additional activities performed by a node *when it has assumed the duties of reference time source.*" (i.e., master node) (Emphasis added). The claimed invention, on the other hand relates to slave nodes, not the master node. Additionally, the function of Dolev's "network timeout delay period" is completely different from the function of the transmission delay in Applicant's slave nodes. Dolev states that the network timeout delay period "serves partly to avoid collisions on the network, and also to reduce the likelihood that a great many other nodes which have received the synchronization request will all try to send a synchronization burst at the same time." Thus, this is a function solely limited to the master node, and does not have anything to do with the Applicant's claimed

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transmission delay. Once again, the purpose of the Applicant's transmission delay is to increase the probability that it will take a longer time for a synchronization message to propagate over a longer path than a shorter path. In this way, slave nodes are more likely to receive shorter-path messages first, thereby speeding up the overall synchronization of the network.

This functionality is not taught or suggested by Kainulainen or Dolev. As provided in MPEP §2143, "[t]o establish a prima facie case of obviousness, . the prior art reference (or references when combined) must teach or suggest all the claim limitations." Consequently, all of the elements of amended claim 20 are not taught by the combination of Kainulainen and Dolev. Therefore, the Applicant respectfully requests the withdrawal of the §103 rejection and the allowance of amended claim 20.

Claims 22-31 depend from claim 20 and recite further limitations in combination with the novel and unobvious elements of claim 20. Therefore, the allowance of claims 22 through 31 is also respectfully requested.

Independent claims 32, 33, and 34 contain similar claim elements and, therefore, should be allowable for similar reasons discussed above. The Applicant respectfully requests that the §103 rejection be withdrawn with respect to claims 32, 33, and 34.

The Examiner rejected claims 24 and 27 under 35 U.S.C. § 103(a) as being unpatentable over Kainulainen in view of Dolev further in view of Tikalsky (US 5,875,179). Claims 24 and 27 depend from amended claim 20, which contains elements not taught or suggested by Kainulainen and Dolev. It is respectfully submitted that Tikalsky does not provide the missing claim limitations to amended claim 20. Therefore, the allowance of claims 24 and 27 is also respectfully requested.

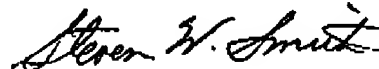
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CONCLUSION

In view of the foregoing remarks, the Applicant believes all of the claims currently pending in the Application to be in a condition for allowance. The Applicant, therefore, respectfully requests that the Examiner withdraw all rejections and issue a Notice of Allowance for claims 20 and 22-34.

The Applicant requests a telephonic interview if the Examiner has any questions or requires any additional information that would further or expedite the prosecution of the Application.

Respectfully submitted,



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Date: October 3, 2005

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